

What is Claimed is:

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5 1. A wet treatment method useful in at least one of a chemical processing step and a rinsing step performed upon fabrication of semiconductor devices, which comprises a sub-step in which:

10 a substrate under treatment is treated with a desired liquid while causing said substrate to revolve around an axis of rotation outside said substrate itself instead of allowing said substrate to rotate about said axis of rotation such that said liquid flowing on a surface of said substrate is maintained flowing under a centrifugal force greater than gravitation, and

15 said substrate is treated while supplying a fresh liquid of the same kind as said desired liquid at a flow rate at least equal to a discharge rate of said desired liquid only in a direction conforming with that of said centrifugal force or with that of a flow of said liquid flowing on said surface of said substrate under said centrifugal force,

20 whereby said substrate is evenly treated at said surface thereof with said desired liquid while avoiding development of such a situation that flows of said liquid run against each other on said surface of said substrate or a flow of said liquid stagnates on said surface of said substrate.

25 2. A wet treatment method according to claim 1, wherein said desired liquid has such a high viscosity and/or adhesion as tending to allow said liquid to remain on said surface of

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said substrate, or contains an organic substance.

3. A wet treatment method according to claim 1, wherein said sub-step is conducted in an initial stage of at least one of said chemical processing step and said rinsing step.

5 4. A wet treatment method according to claim 3, wherein said wet treatment method is used in said rinsing step for a chemical employed in said chemical processing step; and said chemical is one having such a high viscosity and/or adhesion as tending to allow said liquid to remain on said surface of said substrate, one containing an organic substance, or one having such a property that its etching rate quickly increases when mixed with water.

10 5. A wet treatment method according to claim 2, wherein said wet treatment method is used in said rinsing step for a chemical employed in said chemical processing step; and said chemical is a solution of at least one of amines and ammonium fluoride dissolved as an effective component in an organic solvent or a water-containing organic solvent.

15 6. A wet treatment method according to claim 1, wherein said liquid employed in said sub-step is pure water.

20 7. A wet treatment apparatus useful in at least one of a chemical processing step and a rinsing step performed upon fabrication of semiconductor devices, wherein:

25 said wet treatment apparatus is constructed such that a substrate under treatment is wet-treated with a desired liquid

while being caused to revolve around an axis of rotation outside itself instead of being allowed to rotate about said axis of rotation; and

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said wet treatment apparatus is provided with a control
5 system for maintaining said liquid, which is flowing on a surface of said substrate, to flow at a high speed under a centrifugal force greater than gravitation and also supplying a fresh liquid of the same kind as said desired liquid at a flow rate at least equal to a discharge rate of said desired liquid only in a direction conforming with that of said centrifugal force or with that of a flow of said liquid flowing on said surface of said substrate under said centrifugal force such that said substrate is evenly treated at said surface thereof with said desired liquid while avoiding development of such a situation that flows of said liquid run against each other on said surface of said substrate or a flow of said liquid stagnates on said surface of said substrate.

8. A wet treatment apparatus according to claim 7, wherein said control system is constructed such that in an initial stage of at least one of said chemical processing step and said rinsing step, said liquid which is flowing on a surface of said substrate is maintained to flow at a high speed under a centrifugal force greater than gravitation and a fresh liquid of the same kind as said desired liquid is supplied at a flow rate at least equal to a discharge rate of said desired liquid

only in a direction conforming with that of said centrifugal force or with that of a flow of said liquid flowing on said surface of said substrate under said centrifugal force to evenly treat said substrate said surface thereof with said desired liquid while avoiding development of such a situation that flows of said liquid run against each other on said surface of said substrate or a flow of said liquid stagnates on said surface of said substrate.

9. A wet treatment apparatus according to claim 7, wherein said wet treatment apparatus is used in said rinsing step for a chemical employed in said chemical processing step; and said chemical is one having such a high viscosity and/or adhesion as tending to allow said liquid to remain on said surface of said substrate, one containing an organic substance, or one having such a property that its etching rate quickly increases when mixed with water.

10. A wet treatment apparatus according to claim 7, wherein said wet treatment apparatus is used in said rinsing step for a chemical employed in said chemical processing step; and said chemical is a solution of at least one of amines and ammonium fluoride dissolved as an effective component in an organic solvent or a water-containing organic solvent.

11. A wet treatment apparatus according to claim 7, wherein said desired liquid is pure water.

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